DOH-Construction Review Services

The Square Knot

Volume 2 Issue 3
July 2003

A publication to join in a partnership, with our customers, for world class healthcare

Washington State Department of Health
CONSTRUCTION REVIEW SERVICES

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Questions?!?

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Mixing Quick Response Heads with Standard Response Heads

NFPA 13 - 8.3.3.2 states: " Where quick-response sprinklers are installed, all sprinklers within a compartment shall be of the quick-response type."

The use of quick response heads (QR) enhances property protection and life safety and is required by the Uniform Building Code to be installed throughout Healthcare occupancies. Furthermore, NFPA 25 requires that when a sprinkler head is replaced, it must be replaced with the exact same style of head. We have seen an increased number of replacements not meeting this standard

Before we get into a discussion about mixing of heads, it is helpful to know a little about the properties and the extinguishing of fire. There are three phases of fire: 1) Incipient 2) Free burning, and 3) Smoldering. Fires burn at different rates depending on their fuel source and any accelerants that are added to the mix. Generally speaking a typical fire has the ability to double in size every 30 seconds and flashover (full room/area involvement) can occur within 3 minutes.

Sprinkler systems are designed to extinguish fires by cooling the fuel surface by evaporation. The amount of water required to extinguish a fire depends on the heat output and upward plume velocity. The droplets must be able to penetrate the fire plume and cool the fuel source. Sprinklers are designed to extinguish a fire directly below its coverage area.

Sprinkler systems are designed to use about 5-6 heads at one time and the heads used must be directly over the fire to contain the fire effectively. Sprinkler heads are designed to put out the fire during the initial portion of the free burning stage where temperatures are relatively low (200°F) The potential difference in the response time is 45 seconds for the quick response head and a 3 minute response time for the standard head.

If heads are mixed within a compartment, the facility is taking an unnecessary risk that if a fire started directly under a standard response head, an adjacent QR head could activate first. The adjacent head may be able to get a little water out to the fire, but may not effectively control the spread of the fire. This causes enough concern that the NFPA technical committee decided that it was necessary to require that only one style of head be provided within a compartment or area.

What do you do if you find mixed heads in your facility? One solution would be to replace all of the one type so that have all heads are the same type.

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Exemptions & Alternate Methods… How They are Analyzed

When exemptions are analyzed, specific questions need to be answered by both the facility and the Department. Whereas, granting an exemption cannot:

(1) Negate the purpose or intent of the rule;

(2) Place the safety or health of the patients/residents in the facility in jeopardy; or

(3) Lessen any fire and life safety or infection control provision of any other codes, regulations, or standards.

The following outline will help assure a quicker and equitable outcome of a request.

Provide an opening statement that describes the project to which this request is attached. Include CRS project number and project name as shown on the review application.

Request

Cite the rule or regulation for which the exemption, alterative method, or interpretation is being requested. (include a copy of rule)

Intent and history of the rule

Cite the intent of the rule and any history behind this rule.

Facility's statement/request and thesis

Reiterate, insert, or quote the facilities request and reasoning. Attach, with a locator tab, the request letter and all attachments provided by the facility.

Analysis of request

- Locate room, rooms, or area on a floor plan. List rooms by name/number and function.
- Describe the function of the room, rooms, or area and its use for patient care.
- Provide information on the procedures performed in the room, rooms, or area.
- What kind of decision is requested: Exemption, alternative material, or alternative methods?
- Why is it being requested?
- What are the facts surrounding this request?
- Do the facts support the request?
- Discuss the request and its affects on patient care, infection control, and fire & life safety.
- Does the request meet the intent of the rule?
- Are there any assumptions in this request not easily supported by science?
- What are the pros and cons for granting or denying the request?
- Include research papers, opinion papers, news articles, professional text citations, e-mails, similar rules from other states or associations, drawings, photos, internet search documents, information on diseases and treatments and procedures, dictionary definitions, etc. Attach, with locator tabs, to appropriate statements in analysis.

All request letters must be on facility letterhead and signed by the facility administrator.

Those facilities requesting exemptions need to address their requests , with attached supporting data , to the following departments. Be sure to send a copy of your request to Construction Review Services.

Department of Health licensed facilities:

Gary Bennett, Director
Facilities and Services Licensing
P.O. Box 47852
Olympia, WA 98504-7852

Department of Social and Health Services licensed facilities:

Patricia Lashway, Director
Aging and Adult Services Administration
P.O. Box 45600
Olympia, WA 98504-5600

-John . Templar, RS

CRS Reorganization

In the first issue of the Square Knot this year, we published the results of our online survey. Over the past year, we have been evaluating our business model and reviewing several different scenarios to provide better service. It became evident that technical assistance and better communication with the reviewers is one area in which we must improve our process.

Reviewer Workload- Over the past several years we have made several additions to our staff. We have added a Project Coordinator for you to call upon to help assist you through the construction review process. We have also added an additional support team member to help us internally provide better quality communications to our customers.

Our workload has steadily increased over the past four years. What was once a 350-project workload per year is now over 450 projects a year. Unfortunately, we have been limited in options to reduce each reviewer's individual workload. Our previous process utilized four reviewers to review various portions of each project. Once one reviewer was done, the project was "handed" to the next reviewer and so on until all four reviews were complete. This was not only time consuming, but it also limited the possibility to "divide and conquer" our project workload. For us to reduce each reviewer's workload by half we would have had to add four additional reviewers. In a time when we need to think about reducing government and making more efficient use of our FTE's, we had to develop a better solution. We needed a solution that was easily expandable, reduced project workload for each of the reviewers, and still allowed enough time for the reviewers to provide on-site technical assistance when necessary.

In January of last year, we announced the addition of our Small Projects Reviewer position. This position was introduced to reduce some of the workload of the other reviewers by reviewing all aspects of projects with a construction budget under $60,000. Our customers quickly relayed the success of this position to me. We essentially eliminated the "revise and resubmit" process of before and allowed a more flexible and collaborative effort to obtain project approval.

Team Leaders- Effective June 1st, CRS was split into several teams. When you submit a project, a plan review team leader is assigned. This team leader will be responsible for your project until construction is completed and the building is occupied. It will be the responsibility of the team leader to assemble the rest of the team as necessary to review portions of the projects simultaneously with their plan review. We believe that you will find much more effective communication with this new reorganization. When you need to ask a question, or make a change to your documents you will contact your assigned team leader. They will be the one responsible to assist you with your project.

Response Time- Although we don't see any immediate changes in the time frame to review projects, we anticipate that the number of submissions will drop dramatically. In the past we have averaged up to 7 submissions per project, each requiring a 28 day review. With the changes we have already made by adding more conferences and providing more detailed plan review comments, we have already seen the average number of submission drop to 4 per project. Our goal is to decrease the average number submissions to l 2. These numbers are what will be most impressive about this reorganization. Our support team used to handle 1800 submissions a year, and inevitably, errors were made. This reorganization will effectively reduce the number of submissions by half, allowing more time for internal quality control processes so that we get you the right information on time.

One on one contact- Through one-on-one contact between the Architects, Engineers and Project sponsors and our review staff, we will be able to provide more insight to project design solutions. By decreasing the number of projects a reviewer needs to review each year we will have more time available to review individual projects. We will be able to be more familiar with your facility, your program, and your direction. The team leader will be reviewing every aspect of your project and will understand all of the systems (i.e. mechanical, sprinkler, electrical, structural) and how they relate to each other.

Technical assistance- We will be able to provide technical assistance more frequently. Team leaders concentrate more on specific types of occupancies and will not be expected to review all fifteen different types of facilities that we regulate. We will be able to more easily expand our number of staff in the future to accommodate the increasing number of projects, and we will have the time to assist your facility in the field with code compliance questions, design problems, and capital expenditure decisions.

Construction Review Services is committed to working together with Providers, Architects and Engineers to figure ways to provide a high level of safety, within functional spaces and to keep the cost of construction as low as possible as we join together, to provide world class healthcare in Washington. -Chad E. Beebe, AIA

Interpretation of NFPA 13R, Section 2-6, Exception No. 3 For LC Occupancies

Question

Do exterior exit alcoves in LC occupancies need to be sprinklered in new construction when a 13R system is installed?

Answer

Yes, if the exterior exit alcove is in the path of egress it is required to be sprinklered.

Interpretation of request to substitute alcohol-based hand sanitizers for a handwash sink

Question:

When a facility provides alcohol-based hand sanitizers, may the handwash sink in a patient care space be eliminated or placed in a location other than where it is specified in the regulations? (i.e. WAC 246-320-685(6)(b) Air-borne Precaution Rooms requires a hand wash sink, with hands free faucet controls and gooseneck spout, without aerators, to be located in the room near the entry.)

Answer:

No. Alcohol based sanitizers were designed to augment the traditional method of handwashing. It can never totally replace handwashing. CDC's first recommendation in the guideline tells us that handwashing remains the only choice when hands are visibly soiled or have been contaminated with body substances. The guideline is not intended to replace rules and regulations that specify handwash sinks and their locations in the healthcare setting. Facilities are encouraged to add alcohol-based hand sanitizers to their options for hand-hygiene to help reduce infections.

Carpeting in a Nursery

After intensive discussions with APIC, ASHES, CDC, local infection control practitioners and environmental service personnel, and neonatologists, the following standards were agreed upon for carpeting a nursery:

1. Formalized maintenance program for review, which includes (at a minimum) spot cleaning, drying time, noise, dust control, spill clean-up, blood and chemical spill decontamination, and agreements between nursing and environmental services for housekeeping;
2. Documentation defining what types of procedures can and cannot occur in the nursery;
3. Low noise or centralized vacuuming system;
4. HEPA filter on the vacuuming system to prevent airborne dust;
5. Mechanism for monitoring carpet component volitization;
6. Carpet construction components shall include the following:
    - Minimum Pile density of 5000 oz/yd^3
    - Loop pile
    - Class I flammability
    - Static protection of a no more than 1.0 kv at 70 degrees Fahrenheit
    - Type 6 or 6.6 BCF (bulk continuous filament nylon) fiber
    - Moisture resistant backing
    - Tile is recommended for ease of removing bad sections

-John R. Templar, RS

1-877-270-STOP
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Continued from page 1 – Mixing Quick Response Heads with Standard Response Heads

This will enhance the life safety protection of your fire suppression system. Another solution may be to provide lintels that are more than 8" in depth between the two difference types of head. This would create another compartment allowing different types of heads. In any event, a correction needs to be made and drawings need to be submitted to Construction Review Services showing the condition and proposed solutions.

-Chad E. Beebe, AIA

Mercury in Necklaces

Recently, necklaces from Mexico have resulted in mercury spills at schools. Unaware of the hazards, the fragile necklaces are brought in by students. Once broken, the amount of mercury spilled can warrant a hazardous cleanup response and evacuation. Whether at school or home, mercury spills from broken necklaces left unattended may pose a health threat.

To raise awareness, the Washington State Department of Health compiled resources on health effects, spill cleanup, and safe disposal of mercury necklaces, on their website:

http://www.doh.wa.gov/ehp/ts/IAQ/MercuryNecklaces.

2000 Life Safety Code® Part I Mandatory Replacement of all Roller Latches

This is the first part of a five part series on the changes that will be required in Nursing Homes and Hospitals that participate in Medicare and Medicaid Programs.

At one time roller latches were a very common sight in healthcare construction. A roller latch is a mechanical device used to fasten a door by means of a rolling plunger, which engages a socket or catch. Roller latches allowed one to easily pass through doors with very little effort and usually hands free, hence the reason they were so popular in healthcare facilities.

One of the major new changes affecting healthcare providers by the recent adoption of the 2000 Life Safety Code® is the mandatory replacement of roller latches. Although the code specifically allows roller latches to remain in existing conditions CMS has ruled upon careful evaluation that roller latches pose too much risk to the building occupants should there be a fire. Facilities most affected by this rule will be Nursing Homes and older hospitals.

There have been several safety concerns over the use of roller latches and in fact, the ill-fated latches were prohibited from being installed in new applications many years ago. Through fire investigations, roller latches have proven to be an unreliable door latching mechanism requiring extensive on-going maintenance. Keeping doors to patient rooms are paramount to the safety of the residents in a "protect in place" environment. Many roller latches in fire situations have failed to provide adequate protection to residents in their rooms during an emergency.

CMS has estimated that the cost for replacing each roller latch would be around $250. However, facilities have reported to us that it has cost as much as $500 for each door. Facilities will have 3 years to replace roller latches on doors.

-Chad E. Beebe, AIA

The Square Knot

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The Department of Health works to protect and improve the health of the people in Washington State

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Washington State Society for
Healthcare Engineering
WSSHE
Annual Conference
September 10, 11, 12, 2003
West Coast Wenatchee Center Hotel
Wenatchee, WA
Program:
2020 Vision for Healthcare Facilities

For the registration form, agenda, and menu visit:
www.wsshe.org

The next issue ...of the Square Knot is October 2003

Our deadline for articles is August 4, 2003.

Submissions should be about 350-450 words
CRS reserves the right to edit or publish articles.

E-mail your comments and articles to:
fslcrs@doh.wa.gov
Editor: John R. Templar, RS

The next issue will provide you information about:
New Code Interpretations
2000 Life Safety Code
New Staff Members

Construction Review Services Mission

"Construction Review Services protects and improves the health and safety of people in Washington State by providing professional consultation and review for the design and construction of licensed or certified care facilities."